



CSE Department Awarded Two State of Texas Technology Workforce Development Grants

The Texas Higher Education Coordinating Board, through its Technology Workforce Development program, has funded two grant proposals submitted by members of the UNT CSE faculty. These grants begin in May of 2005 for a two-year period.

The first grant, entitled "Recruiting and Retention Strategies for Computer Science at UNT", in the amount of \$125,322, will be used to create two new programs. The first will encompass the development and offering of a one week summer camp for young women in grades 9 to 11 that offers them the opportunity to investigate robotics and computer science in a team-oriented environment. The summer camp program is designed to be mobile so that it can be used to reach a variety of populations throughout the metroplex.

The second program under this grant will establish a group of Ambassadors for the CSE program. The Ambassadors will represent the department at high school and college recruiting events in the area, and host open houses and competitions at UNT Research Park. The Ambassadors will also serve as mentors for a small group of first year students helping them to adapt to university life and to become part of the College of Engineering and CSE family. The Ambassadors will receive a scholarship as part of the program. Investigators for this grant are Dr. Robert Akl and David Keathly.

The second grant funded under the TWD initiative is entitled "Improving Student Recruiting and Retention through an Interdisciplinary Computer Science Curriculum," under the direction of Dr. Armin Mikler and David Keathly. This effort will seek to design a new degree program and curriculum that investigates applications of computer science in the Natural and Life Sciences. Courses and curriculum requirements will be developed in cooperation with related departments at UNT.

Specifically, the grant will fund the development of two new courses to inaugurate this effort. The first course will be a breadth-first introduction to computational needs and methods in the sciences, drawing examples and projects from a variety of different scientific disciplines including Physics, Chemistry, and Biology. The second course is an in-depth study of Computational Biology intended to give students a more complete understanding of computational needs and techniques in this area.

New CSE Logo Design Chosen

This Spring the Department of Computer Science and Engineering held a contest for designing a new logo. Justin Pocha, a Junior majoring in Communication Design from Mesquite, submitted the winning entry, a graphic treatment of CSE, shown above at left.

If you would like to view our logo in color, please go to <http://www.cse.unt.edu/index.php?u=5&id=155>. If you would like to purchase a shirt with our new logo, contact David Keathly at dkeathly@unt.edu.

B.S. Degree in Computer Science Accredited for 18th Year

During the 2004-2005 school year, the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET) granted accreditation to the University of North Texas Bachelor of Science degree in Computer Science for the 18th consecutive year. The designation recognizes the high quality of the department's programs, faculty, and curriculum.

Dr. Thomas Irby, as Chairman of the Undergraduate Committee, was the Coordinator for the ABET accreditation. "The continued accreditation of the B.S. in Computer Science degree is important," Dr. Irby said, "because it provides an independent assessment of the quality of the program. The amount of work required to prepare the accreditation documents and materials is substantial. The process gives us the opportunity to evaluate what we are doing and to make sure that our programs continue to be up to date and relevant in today's world."

M.S. in Computer Engineering Now Offered at UNT

In Fall 2004, the Department of Computer Science and Engineering began its M.S. in Computer Engineering. Graduates of this program will have a strong background in computer engineering with both software and hardware skills including software development, design of digital systems, microprocessors, embedded systems, real-time systems and digital communication networks.

The M.S. in Computer Engineering offers four areas of concentration: VLSI design, Communication and Networks, Real-time Systems, and Computer Systems. Two degree options are available for this degree. The Thesis Option includes 24 hours of courses and 6 hours of thesis. The Course Option is 36 hours of coursework which may include 3 hours toward a Computer Engineering project.

More information about the M.S. in Computer Engineering is available at our website: <http://www.cse.unt.edu>.

Curriculum Changes Announced

Beginning in Fall 2005, all Computer Science and Engineering Courses will carry the CSCE abbreviation. In previous semesters, courses had been separated into CSCI for the traditional Computer Science courses and CSCE for Computer Engineering. This change brings unity to our department and its course offerings.

Several changes in the course curriculum, course content, and overall degree requirements have been made. The B.S. in Computer Science has been reduced from 134 required hours to 131 hours and the foreign language option has been removed. BSCS students are now required to take one Advanced Technical Writing course in addition to the Introductory Technical Writing requirement for all College of Engineering students. The change in required hours brings the Computer Science degree into alignment with the Computer Engineering degree. The B.S. in Computer Engineering and the B.A. in Computer Science are unchanged.

The introductory course sequence for all Computer Science and Computer Engineering majors has also been changed to align with the State of Texas recommended curriculum as well as the standard offerings at area Community Colleges. The old CSCI 1110 and CSCI 1120 sequence have been replaced with a three-course sequence of CSCE 1030, CSCE 1040, and CSCE 2050. In this sequence, students will be first introduced to JAVA and program design and structure concepts. Later in the sequence the students will add C++ to their language base as well as introductory data structures concepts.

In addition to these changes, Assembly Language is no longer a required course, but is still offered as an optional topic. Some components of assembly language will be incorporated into the CSCE 2610 Machine Organization course, along with computer architecture and fundamental digital logic concepts.

The final change is the addition to the required course list of CSCE 4410 Software Development I. This is the first of the two project base courses that form the capstone of the Computer Science program. Students work together to complete design projects and are exposed to concepts and techniques in software analysis, design, testing, and project management.

Greetings from the CSE Chairman

Welcome to our second printed edition of our CSE alumni newsletter. I hope you enjoy reading about the activities in our department. During this past year, we have begun an email newsletter just for alumni. If you register at our website, you will receive updates from us two or three times a year.



Our goal is to be the Number 1 CSE department in the North Texas region, among the top 5 CSE departments in Texas and among the top 50 CSE departments in the U.S. We know that we are aiming high, but with alumni participation and support, we can achieve these goals.

Thank you for supporting CSE and UNT.
Krishna M. Kavi, Chair

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New Faculty Join CSE Department in 2004-2005

David M. Keathly is a Lecturer and Undergraduate Advisor in the Department of Computer Science and Engineering. Mr. Keathly holds B.S. and M.S. degrees in Electrical Engineering from Oklahoma State University. He also serves as faculty advisor for the student chapters of the ACM, IEEE Computer Society, and the CSE Programming Teams.



He has published articles in conference proceedings and computer industry publications including the C USER's JOURNAL and holds a U.S. and Japanese patent in image processing. His research interests include Computer Vision, Software Engineering and Software Development Methodologies, Embedded Systems Design and Development, Web Services and Web Application Architectures.

Prior to joining the faculty at UNT, Mr. Keathly served as adjunct faculty at UT-Dallas, Collin County Community College, University of Phoenix Online and DeVry University. He has also been a founding partner in several software development and technical training business ventures.

At Honors Day on April 8, 2005, Mr. Keathly received the UNT Student Government Association's Honors Professor Award for his teaching excellence, outstanding and unselfish service, publications and scholarly work. His faculty website can be found at:

<http://www.cse.unt.edu/~dkeathly>

Dr. Huang Receives Powe Junior Faculty Award

Dr. Yan Huang, Assistant Professor in the UNT Department of Computer Science and Engineering, received one of the Ralph E. Powe Junior Faculty Enhancement Awards, which provide seed money for research by junior faculty at Oak Ridge Associated Universities (ORAU) member institutions.



The Ralph E. Powe Junior Faculty Enhancement Awards are intended to enrich the research and professional growth of young faculty and result in new funding opportunities. These awards are given to full-time assistant professors at more than a hundred ORAU member institutions within two years of their initial tenure track appointment. It represents public recognition by academic peers of the quality and promise of the recipients' research. In 2005, 79 applications were received and 26 awards were made.

The CSE Department congratulates Dr. Huang for receiving this prestigious award.

Saraju P. Mohanty earned his Bachelor of Technology degree in Electrical Engineering from the College of Engineering and Technology, Orissa University of Agriculture and Technology, Bhubaneswar, India in 1995. He received a Master of Engineering degree in Systems Science and Automation from the Indian Institute of Science, Bangalore, India in 1999. He earned a Ph.D. in Computer Science and Engineering from the University of South Florida in 2003.



He has published several peer reviewed research papers in areas of VLSI design automation, VLSI design and digital watermarking. His paper was nominated for the best paper award at an international conference on VLSI Design in 2003. In 2002 and 2003, he received a certificate of recognition from the Provost of the University of South Florida for outstanding teaching.

His research interests include CAD for Nanometer VLSI Circuits, Low Power Synthesis, Power Aware System Design, High Level Synthesis, and VLSI Signal Processing. Dr. Mohanty's faculty website is located at:

<http://www.cse.unt.edu/~smohanty>

UNT Hosts SCOPES 2005 in Dallas

Dr. Krishna Kavi, Chairman of the UNT Department of Computer Science and Engineering, will serve as Co-General Chair for the 9th International Workshop on Software and Compilers for Embedded Systems (SCOPES). Dr. Philip Sweany, Associate Professor in the CSE Department, will serve as Co-Program Chair. Dr. Mehran Rezaei, Adjunct Professor in the CSE Department, will serve as the Tutorial Chair. David Keathly is also serving as the Finance Chair for the conference.

For the first time, SCOPES will be held in the United States. It will be held September 29 through October 1, 2005, at the Fairmont Hotel, 1717 N. Akard Street, in downtown Dallas.

A key goal of the workshop is to provide an interactive atmosphere. Questions are encouraged during all presentations. In addition, the workshop will include special discussion sessions. The workshop is open to all interested participants active in embedded systems. For more information about SCOPES 2005, please go to:

<http://www.scopesconf.org>

Advisory Council Guides CSE Department

In April 2003, the UNT Department of Computer Science and Engineering held its first Advisory Council meeting with three members present in addition to CSE faculty members. Since that time, the CSE Advisory Council has grown to 11 members and meets twice a year to offer guidance to the CSE Department.

The purpose of the Advisory Council is to enhance the quality and content of the computer science and engineering research and educational programs through active practitioner-educator partnering. The primary roles of the Advisory Council are:

- * Provide advice to the department's chair on undergraduate and graduate programs.
- * Provide advice to the faculty on desired program objectives, outcomes, and other educational issues, as "constituents" representing the community of employers of graduates.
- * Provide advice on the needs of and trends in industry and business.
- * Provide advice to the department chair to increase the department's relationship with local industry.
- * Assist the department to identify qualified adjunct instructors for possible instructional needs.
- * Provide advice concerning the department's research program and projects.

Current members of the CSE Advisory Council are:

Mike Flanery (M.S. 1986)
Kathryn A. Foster (M.S. 1979)
Dennis J. Frailey
Jeffrey Hatfield (B.A. 1996), Chairman
Clay Johnson
Robert T. Milburn
Elaine J. Pettit (Ph.D. 1995)
Barry Poff
Roy K. Rajan
Charles F. Shelor
Deborah R. Stokes

Sun Microsystems
Texas Instruments
Raytheon
Motorola
Dell
Lockheed Martin
Raytheon
Labinal-Corinth
Lockheed Martin
Via-Cyrix
Nortel Networks

If you are employed by one of these companies, please contact these Advisory Council members to offer your support of our CSE Department. If your company is not represented, please send your recommendation for CSE Advisory Council members to the CSE Department.

Alumni Support National Engineers Week

CSE Alumni participated in National Engineers Week, February 21-25, 2005. **Wil Clark**, (B.S. 1994) Network and Systems Manager for UNT-Dallas Campus, was a "Professor for a Day" in David Keathly's CSCI 3100 class. Wil addressed students on the need for sound project planning and management in all types of software, hardware and networking efforts.



Kathy Foster, left, with Dr. Yan Huang

Central Regional Executive for Sun Microsystems, Inc. Mike was the featured speaker for the Graduate Studies Open House during National Engineers Week. Mike also serves on the College of Engineering Advisory Board and the CSE Advisory Council.

Alumni support is important to our Department of Computer Science and Engineering. Thanks to our CSE Alumni for supporting our activities during National Engineers Week.

Kathy Foster, (M.S. 1979) Senior Member of the Technical Staff at Texas Instruments, was also a "Professor for a Day." Kathy lectured on databases in Dr. Huang's CSCI 5330 class. In December 2004, Kathy joined the UNT Department of Computer Science and Engineering Advisory Council.

In addition to graduating from UNT, **Mike Flanery** (M.S. 1986) lectured in the Computer Science Department from 1986 to 1988. Since 1992, he has been a Systems Engineering Manager and a



Mike Flanery, right, with Don Retzlaff

Thanks to our other "Professors for a Day" during National Engineers Week

Jasson Casey	Level3 Communications
John Demcher	The Beryl Companies
Mike Deskis	Onsite Seminar
Dennis Frailey	Raytheon
Stephen Guest	Lockheed Martin

Thanks to Harvey Cragon for being the ACM/IEEE Distinguished Speaker, and to Raymond Paul, U.S. Department of Defense, for being the College of Engineering Keynote Speaker.

UNT Collaborates with Alumna in Turkey Through NSF Grant

Dr. Robert Brazile, **Dr. Kathleen Swigger**, and Ph.D. student **Brian Harrington** (B.S. 2002, M.S. 2003) visited Ankara, Turkey during spring break this year. Drs. Swigger and Brazile have a National Science Foundation grant that involves doing a collaborative project with Dr. Ferda Alpaslan of Middle Eastern Technical University in Ankara. Dr. Alpaslan received her Ph.D. in Computer Science in 1993 from the University of North Texas.

The purpose of the NSF grant is to investigate how system designers and programmers in different cultures work together using computer-supported collaborative software to design, write, and test programs over the Internet. The purpose of the trip was to test the current version of the collaborative software and set up future projects with colleagues in Turkey.

When Brian was asked what he thought of his first visit to Turkey, he said "I did not expect it to be so secular." Although Turkey is a Muslim country, it is very modern and similar to other European countries. American students might expect flying carpets and turbans, while Turkish students might expect horses and cowboy hats from us. The reality is that we are not that different.

Graduate students in the Department of Computer Science and Engineering may visit exciting foreign places during their studies at UNT. For more information about this NSF project, please go to: <http://zeus.csci.unt.edu>.



(L-R): Brian Harrington, Dr. Ferda Alpaslan, Dr. Kathleen Swigger, Dr. Robert Brazile

Ke Xu, Ph.D. 2004, Receives Award for Dissertation

Dr. Sandra Terrell, Graduate Dean of the Toulouse School of Graduate Studies at the University of North Texas has announced that **Ke Xu** was selected as one of the Graduate Council Dissertation Award Recipients for 2004-2005.



Ke Xu received the Research Dissertation Award for Research Achievement in Engineering. Dr. Xu graduated in Spring 2004, with Dr. Steve Tate as his major professor. The title of his dissertation was "Mobile Agent Security through Multi-Agent Cryptographic Protocols."

In his research, Dr. Xu showed how mobile code can be protected while on remote hosts in a provably secure way, through innovative use of cryptography and interaction. This work formed the basis for a successful \$250,000 grant from the National Science Foundation. Dr. Xu now works as part of the security group at NEC Unified Solutions in Irving.

Register to Receive New Alumni Email Newsletter

During the past year, the CSE Department has been sending email newsletters to alumni. If you did not receive those email newsletters, it is because we do not have your current email address. To register your information, go to our website <http://www.cse.unt.edu> and click on "people" and then "alumni" to complete the alumni application or update your information. Then you will begin receiving our email newsletter with all the news from the CSE Department.

On that same alumni webpage, you can click on "alumni newsletter" and see the email newsletters published in October 2004, December 2004, and February 2005. These newsletters contain information on our new laboratories, faculty research, alumni news, and student activities. After you have read these, please register your information on our alumni website and you will receive future issues.

Want to get together with other UNT CSE alumni? If you are interested in networking with other UNT CSE alumni, the CSE Department will host an event with a catered meal for a minimal fee. It would be held at our new location at the College of Engineering, 3940 North Elm St., in Denton. If you want to make this happen, please email Genene Murphy at genene@unt.edu during the summer. If there is enough interest, an invitation will be sent by email for an event next Fall so please register your contact information on our website.

CSE Programming Team Finishes First in U.S.

One of our UNT computer programming teams finished first among teams in the U.S. in the IBM-sponsored International Online Programming Contest (IOPC 2005) held February 20. This team placed sixth out of 789 teams, but they finished as the top U.S. competitor.

Team members were **Matthew Watson**, **John Rizzo**, and **Michael Mohler**. They had to solve twelve programming problems in only one day. According to John, "We basically coded for eighteen hours straight and solved all twelve of the given problems." This is the first time a UNT programming team has competed in this international competition.



UNT's programming team:
(L-R) Michael Mohler, Matthew Watson,
and John Rizzo

UNT Named "Best Performing University" at SMU Programming Competition

Two teams from the UNT Computer Science and Engineering Department placed 1st and 4th at the SMU Metroplex Programming Competition on April 9, 2005. This performance also earned UNT the overall trophy as "Best Performing University."

The top team "Well Defined" consisted of **Keith Hermes**, **Jack Lindamood**, and **John Rizzo**. They received certificates and Apple iPod Shuffles for their 1st place finish. The members of "No Idea" were **Tyler Cole**, **Chris Gibson**, and **Andrew Olson**. They received certificates for finishing in 4th place. Congratulations to these students!



Student Awards for National Engineers Week

Congratulations to the winners of the National Engineers Week student contests, sponsored by the UNT Chapters of the IEEE Computer Society and the ACM.

Poetry in Code Contest: Erik Carson

Brain Twisters Contest:
1st – Christopher Sims
2nd – Sudeep Patwardhan
3rd – Christian Loza

Name That Program Contest:
1st – Harold Myles
2nd – John Rizzo
3rd – Christopher Sims

Logo Design Contest
1st – Justin Pocta:
2nd – Dan-Que Nguyen

Best Box Contest: Steve Borga

Special thanks for prize donations: UNT College of Engineering, Dr. Ian Parberry and the LARC, Sun Microsystems, Microsoft Imagine Cup, IEEE Computer Society, Association for Computer Machinery, and the UNT Bookstore.

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